

## 2006 RESEARCH PROBLEM STATEMENT

**Problem Title:**

GIS Project Tracking Website

**No.:** 06.01-3

(see also 06.05-11)

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### 1. Briefly describe the problem to be addressed:

One of the criticisms that UDOT receives from the public is why we don't have better coordination between our construction projects. Sometimes this happens because transportation funding is controlled by politics and we have little control over that process. However, on other occasions this criticism is valid and could be improved if we did better planning. Unfortunately, most of the tools we use in UDOT to manage preconstruction and construction projects do not allow the projects to be viewed simultaneously in a graphical view. For example ePM is a great tool but lacks a graphical way to show projects.

We need a better tool. We need to develop a tool to graphically display all UDOT projects (both preconstruction & construction projects) in a using a GIS web environment. This would allow project managers, PICS, media, local governments, contractors, and the public to view all projects and do better planning. The user could choose to view projects on a map by type or construction, year, PM, RE, etc. The map could allow the user to click on the road to go to the Project website. ACCURATE preconstruction and construction schedules could be view (i.e, when will construction be finished, when will it be advertised).

**Strategic Goal:** ☐ Preservation ☒ Operation ☒ Capacity ☐ Safety (Check all that apply)

### 2. List the research objective(s) to be accomplished:

1. Develop a GIS website to display all preconstruction and construction projects. The GIS website would allow users to query projects based on various criteria and then display the results on an interactive map.

2. Evaluate how much the product is being used, if it is improving how we do business, & if it is of value to our external customers and partners.

### 3. List the major tasks required to accomplish the research objective(s):

**Estimated person-hours**

1. Use GIS to develop a Transportation Explorer website. (1500 hours)

2. Link GIS website to ePM and PDBS databases. This would involve an effort to clean up those databases so that it is GIS compatible. It could also require creating some new fields in ePM. (1500 hours)

3. Link map to project websites. (40 hours)

4. Provide training on how to use the system. (40 hours)

5. Evaluate how much the product is used and if it is improving our planning process. (80 hours)

### 4. Outline the proposed schedule (when do you need this done, and how we will get there):

GIS Web Development – 6 months

Modify/Clean Database – 3 months

Implementation & Product Evaluation – 6 months

Report on project effectiveness.

### 5. Indicate type of research and / or development project this is:

**Large:** ☐ Research Project ☒ Development Project  
**Small:** ☐ Research Evaluation ☐ Experimental Feature ☐ New Product Evaluation ☐ Tech Transfer Initiative :  
☐ Other \_\_\_\_\_

### 6. What type of entity is best suited to perform this project (University, Consultant, UDOT Staff, Other Agency, Other)?

UDOT ETS has already started to develop a pilot version of this concept for Region Two using an AJ web developer and Chris Glazier's time. If funded, we could continue this effort and expand it Statewide by hiring AJs and involving ePM staff/resources.

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**7. What deliverable(s) would you like to receive at the end of the project? (e.g. useable technical product, design method, technique, training, workshops, report, manual of practice, policy, procedure, specification, standard, software, hardware, equipment, training tool, etc.)**

GIS Project Tracking Website (GIS ePM)

**8. Describe how will this project be implemented at UDOT.**

Develop the GIS Project Tracking website, train users, and allow them to use and evaluate the system.

**9. Describe how UDOT will benefit from the implementation of this project, and who the beneficiaries will be.**

PMs, Preconstruction Engineers, and planning can see graphically all upcoming and current projects and make better planning decisions. It would allow these groups to show ePM and PDBS data on a map.

UDOT management (Region Directors, etc) could use the tool to keep better track of projects.

PICs, the public, local governments, and the media could use the tool to see keep track of projects and find out project status/information.

**10. Describe the expected risks, obstacles, and strategies to overcome these.**

1. Product goes unused or underused.

2. Clean up ePM & PDBS databases to be GIS compatible and program some features (data fields) into ePM. This will require coordination and buyoff by ePM & PDBS management.

3. Rely on PMs and others to keep the database current.

**11. List the key UDOT Champion of this project (UDOT employee who will help Research Division steer and lead this project, and will spearhead the implementation of the results):**

Ed Rock - ETS

**12. Estimate the cost of this research study including implementation effort (use person-hours from No. 3):** \$95,000

**13. List other champions (UDOT and non-UDOT) who are interested in and willing to participate in the Technical Advisory Committee for this study:**

Name	Organization/Division/Region	Phone
A) Chris Glazier	ETS - GIS	965-4381
B) Becky Stromness	ePM	964-4518
C) Joe Kammerer	Region Two Project Management	
D) Jesse Sweeten	PDBS	
E) TOC/Commuterlink		
F) Local Govts	Public Involvement Coordinators	
G) Marketing		
H) RE's		

**14. Identify other Utah agencies, regional or national agencies, or other groups that may have an interest in supporting this study:**

Consultants, AGC